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Krafttransformatorer – Del 4: Anvisning för stötspänningsprovning av transformatorer och reaktorer

*Power transformers –
Part 4: Guide to lightning impulse and switching impulse testing –
Power transformers and reactors*

Som svensk standard gäller europastandarden EN 60076-4:2002. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60076-4:2002.

Nationellt förord

Europastandarden EN 60076-4:2002^{*)}

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 60076-4, First edition, 2002 - Power transformers - Part 4: Guide to lightning impulse and switching impulse testing - Power transformers and reactors**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden ska användas tillsammans med SS-EN 60076-3.

Tidigare fastställd svensk standard SS-IEC 722, utgåva 1, 1983, gäller ej fr o m 2005-09-01.

^{*)} EN 60076-4:2002 ikraftsattes 2002-12-04 som SS-EN 60076-4 genom offentliggörande, d v s utan utgivning av något svenskt dokument.

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Power transformers
Part 4: Guide to the lightning impulse and switching impulse testing -
Power transformers and reactors
(IEC 60076-4:2002)

Transformateurs de puissance
Partie 4: Guide pour les essais au choc
de foudre et au choc de manoeuvre -
Transformateurs de puissance
et bobines d'inductance
(CEI 60076-4:2002)

Leistungstransformatoren
Teil 4: Leitfadens zur Blitz-
und Schaltstoßspannungsprüfung
von Leistungstransformatoren
und Drosselspulen
(IEC 60076-4:2002)

This European Standard was approved by CENELEC on 2002-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 14/413/FDIS, future edition 1 of IEC 60076-4, prepared by IEC TC 14, Power transformers, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60076-4 on 2002-09-01.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2003-06-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-09-01

Annexes designated "normative" are part of the body of the standard.

Annexes designated "informative" are given for information only.

In this standard, annex ZA is normative and annexes A and B are informative.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60076-4:2002 was approved by CENELEC as a European Standard without any modification.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60060-1	- ¹⁾	High-voltage test techniques Part 1: General definitions and test requirements	HD 588.1 S1	1991 ²⁾
IEC 60060-2	- ¹⁾	Part 2: Measuring systems	EN 60060-2	1994 ²⁾
IEC 60076-3	- ¹⁾	Power transformers Part 3: Insulation levels, dielectric tests and external clearances in air	EN 60076-3	2001 ²⁾
IEC 60289	- ¹⁾	Reactors	EN 60289	1994 ²⁾
IEC 61083-1	- ¹⁾	Instruments and software used for measurement in high-voltage impulse tests Part 1: Requirements for instruments	EN 61083-1	2001 ²⁾
IEC 61083-2	- ¹⁾	Digital recorders for measurements in high-voltage impulse tests Part 2: Evaluation of software used for the determination of the parameters of impulse waveforms	EN 61083-2	1997 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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POWER TRANSFORMERS –

Part 4: Guide to the lightning impulse and switching impulse testing – Power transformers and reactors

1 Scope

This part of IEC 60076 gives guidance and explanatory comments on the existing procedures for lightning and switching impulse testing of power transformers to supplement the requirements of IEC 60076-3. It is also generally applicable to the testing of reactors (see IEC 60289), modifications to power transformer procedures being indicated where required.

Information is given on waveshapes, test circuits including test connections, earthing practices, failure detection methods, test procedures, measuring techniques and interpretation of results.

Where applicable, the test techniques are as recommended in IEC 60060-1 and IEC 60060-2.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60060-1, *High-voltage test techniques – Part 1: General definitions and test requirements*

IEC 60060-2, *High-voltage test techniques – Part 2: Measuring systems*

IEC 60076-3, *Power transformers – Part 3: Insulation levels, dielectric tests and external clearances in air*

IEC 60289, *Reactors*

IEC 61083-1, *Instruments and software used for measurement in high-voltage impulse tests – Part 1: Requirements for instruments*

IEC 61083-2, *Digital recorders for measurements in high-voltage impulse tests – Part 2: Evaluation of software used for the determination of the parameters of impulse waveforms*